

COC#187

11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8244  
East 11115 Montgomery, Suite B, Spokane, WA 99206-4776  
9405 S.W. Nimbus Avenue, Beaverton, OR 97008-7132  
20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

(425) 420-9200 FAX 420-9210  
(509) 924-9200 FAX 924-9290  
(503) 906-9200 FAX 906-9210  
(541) 383-9310 FAX 382-7588

# CHAIN OF CUSTODY REPORT

Work Order #:

P160858

## TURNAROUND REQUEST in Business Days\*

Organic & Inorganic Analyses

10 7 5 4 3 2 1 <1

STD.

Petroleum Hydrocarbon Analyses

5 4 3 2 1 <1

STD.

Please Specify

OTHER

\*Turnaround Requests less than standard may incur Rush Charges.

CLIENT: BRISTOL  
REPORT TO: ANNE KRANAUWETTER  
ADDRESS: AMCHITKA, AK  
PHONE: 907-770-0974 FAX: 770-0975

INVOICE TO:

BRISTOL

P.O. NUMBER: 21090

PROJECT NAME: AMCHITKA  
PROJECT NUMBER: 21090  
SAMPLED BY: Ann

## REQUESTED ANALYSES

CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	Vols	Babo	SUCS	P270	met U	8met U	RCRA												MATRIX (W, S, O)	# OF CONT.	COMMENTS	NCA WO ID
1. OIAMC406ME	7/21/01 1015	X	X	X	X															S	3		
2. OIAMC407ME	7/21/01 1112	X																		S	1		
3.																							
4.																							
5.																							
6.																							
7.																							
8.																							
9.																							
10.																							
11.																							
12.																							
13.																							
14.																							
15.																							

TO PDX

RELINQUISHED BY: Kyle Peterson FIRM: BRISTOL DATE: 7-21-01 TIME: 1115  
RECEIVED BY: Stephen Wilson FIRM: NCA DATE: 7-21-01 TIME: 1115  
RELINQUISHED BY: [Signature] FIRM: NCA DATE: 7/24/01 TIME: 1341  
RECEIVED BY: Bob FIRM: NCA DATE: 7/26/01 TIME: 9:50

ADDITIONAL REMARKS: C-4 South Sump Characterization

TEMP: 1.3°C

PAGE OF



**Seattle** 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8244  
425.421 fax 425.420.9210  
**Spokane** East 11 Montgomery, Suite B, Spokane, WA 99206-4776  
509.924.9200 fax 509.924.9290  
**Portland** 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132  
503.906.9200 fax 503.906.9210  
**Bend** 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711  
541.383.9310 fax 541.382.7588

25 October, 2001

Anne Krarawetter  
Bristol Environmental & Engineering  
2000 W. International Airport Rd. #C-1  
Anchorage, AK 99502-1116

RE: Amchitka

Enclosed are **amended** results of analyses for samples received by the laboratory on 07/26/01 09:50. If you have any questions concerning this report, please feel free to contact me. These results supercede all previous results reported by the laboratory.

Sincerely,

Jerry Orlando  
Project Manager/QA

Work Orders included in this report:

**P1G0858**

Bristol Environmental & Engineering  
2000 W. International Airport Rd. #C-1  
Anchorage, AK 99502-1116

Project: Amchitka  
Project Number: 21090, PO# 21090  
Project Manager: Anne Krarawetter


**Amended Report**  
Issued: 10/25/01 16:26

**ANALYTICAL REPORT FOR SAMPLES - Amended**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
01AMC406MI	P1G0858-01	Soil	07/21/01 10:15	07/26/01 09:50
01AMC407MI	P1G0858-02	Other wet	07/21/01 11:12	07/26/01 09:50

North Creek Analytical - Portland

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Jerry Orlando, Project Manager/QA

**North Creek Analytical, Inc.**  
**Environmental Laboratory Network**

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Bristol Environmental & Engineering  
 2000 W. International Airport Rd. #C-1  
 Anchorage, AK 99502-1116

Project: Amchitka  
 Project Number: 21090, PO# 21090  
 Project Manager: Anne Krarawetter


**Amended Report**  
 Issued: 10/25/01 16:26

**Total Metals per EPA 6000/7000 Series Methods**  
**North Creek Analytical - Portland**

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
<b>01AMC406MI (P1G0858-01) Soil</b>						Sampled: 07/21/01 Received: 07/26/01			
Arsenic	46.6	0.500	mg/kg dry	1	EPA 6020	07/28/01	08/01/01	1071826	
Barium	127	1.00	"	10	"	"	07/31/01	"	
Cadmium	6.83	0.500	"	"	"	"	"	"	
Chromium	95.5	0.500	"	"	"	"	"	"	
Lead	360	2.14	"	42.8	"	"	07/31/01	"	
Mercury	0.852	0.100	"	1	EPA 7471A	08/02/01	08/02/01	1080927	
Selenium	ND	0.500	"	"	EPA 6020	07/28/01	07/31/01	1071826	
Silver	ND	0.500	"	10	"	"	"	"	

North Creek Analytical - Portland

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 Jerry Orlando, Project Manager/QA

North Creek Analytical, Inc.  
 Environmental Laboratory Network

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Bristol Environmental & Engineering  
2000 W. International Airport Rd. #C-1  
Anchorage, AK 99502-1116

Project: Amchitka  
Project Number: 21090, PO# 21090  
Project Manager: Anne Krarawetter


**Amended Report**  
Issued: 10/25/01 16:26

**Volatile Organic Compounds per EPA Method 8260B**  
**North Creek Analytical - Portland**

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
<b>01AMC406MI (P1G0858-01) Soil</b>						Sampled: 07/21/01 Received: 07/26/01			
Acetone	ND	3600	ug/kg dry	1	EPA 8260B	08/04/01	08/04/01	1081012	
Benzene	ND	144	"	"	"	"	"	"	
Bromobenzene	ND	144	"	"	"	"	"	"	
Bromochloromethane	ND	144	"	"	"	"	"	"	
Bromodichloromethane	ND	144	"	"	"	"	"	"	
Bromoform	ND	144	"	"	"	"	"	"	
Bromomethane	ND	719	"	"	"	"	"	"	
2-Butanone	ND	1440	"	"	"	"	"	"	
n-Butylbenzene	ND	719	"	"	"	"	"	"	
sec-Butylbenzene	ND	144	"	"	"	"	"	"	
tert-Butylbenzene	ND	144	"	"	"	"	"	"	
Carbon disulfide	ND	1440	"	"	"	"	"	"	
Carbon tetrachloride	ND	144	"	"	"	"	"	"	
Chlorobenzene	ND	144	"	"	"	"	"	"	
Chloroethane	ND	144	"	"	"	"	"	"	
Chloroform	ND	144	"	"	"	"	"	"	
Chloromethane	ND	719	"	"	"	"	"	"	
2-Chlorotoluene	ND	144	"	"	"	"	"	"	
4-Chlorotoluene	ND	144	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	719	"	"	"	"	"	"	
Dibromochloromethane	ND	144	"	"	"	"	"	"	
1,2-Dibromoethane	ND	144	"	"	"	"	"	"	
Dibromomethane	ND	144	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	144	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	144	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	144	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	719	"	"	"	"	"	"	
1,1-Dichloroethane	ND	144	"	"	"	"	"	"	
1,2-Dichloroethane	ND	144	"	"	"	"	"	"	
1,1-Dichloroethene	ND	144	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	144	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	144	"	"	"	"	"	"	
1,2-Dichloropropane	ND	144	"	"	"	"	"	"	
1,3-Dichloropropane	ND	144	"	"	"	"	"	"	
2,2-Dichloropropane	ND	144	"	"	"	"	"	"	
1,1-Dichloropropene	ND	144	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	144	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	144	"	"	"	"	"	"	
Ethylbenzene	253	144	"	"	"	"	"	"	

North Creek Analytical - Portland

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Jerry Orlando, Project Manager/QA

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**Environmental Laboratory Network**

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Bristol Environmental & Engineering  
 2000 W. International Airport Rd. #C-1  
 Anchorage, AK 99502-1116

Project: Amchitka  
 Project Number: 21090, PO# 21090  
 Project Manager: Anne Krarawetter

**Amended Report**  
 Issued: 10/25/01 16:26

**Volatile Organic Compounds per EPA Method 8260B**  
**North Creek Analytical - Portland**

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
<b>01AMC406MI (P1G0858-01) Soil</b>									
						Sampled: 07/21/01 Received: 07/26/01			
Hexachlorobutadiene	ND	288	ug/kg dry	1	EPA 8260B	08/04/01	08/04/01	1081012	
2-Hexanone	ND	1440	"	"	"	"	"	"	
Isopropylbenzene	ND	288	"	"	"	"	"	"	
p-Isopropyltoluene	ND	288	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND	719	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	144	"	"	"	"	"	"	
Methylene chloride	ND	719	"	"	"	"	"	"	
Naphthalene	ND	288	"	"	"	"	"	"	
n-Propylbenzene	ND	144	"	"	"	"	"	"	
<b>Styrene</b>	<b>3150</b>	144	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	144	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	144	"	"	"	"	"	"	
Tetrachloroethene	ND	144	"	"	"	"	"	"	
<b>Toluene</b>	<b>255</b>	144	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	144	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	144	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	144	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	144	"	"	"	"	"	"	
Trichloroethene	ND	144	"	"	"	"	"	"	
Trichlorofluoromethane	ND	144	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	144	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	144	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	144	"	"	"	"	"	"	
Vinyl chloride	ND	144	"	"	"	"	"	"	
<b>o-Xylene</b>	<b>158</b>	144	"	"	"	"	"	"	
<b>m,p-Xylene</b>	<b>326</b>	288	"	"	"	"	"	"	
Surr: 4-BFB	76.1 %	70-130							
Surr: 1,2-DCA-d4	103 %	70-130							A-01
Surr: Dibromofluoromethane	99.8 %	70-130							
Surr: Toluene-d8	96.2 %	70-130							

North Creek Analytical - Portland

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*Jo*

Jerry Orlando, Project Manager/QA

Bristol Environmental & Engineering  
 2000 W. International Airport Rd. #C-1  
 Anchorage, AK 99502-1116

Project: Amchitka  
 Project Number: 21090, PO# 21090  
 Project Manager: Anne Krarawetter


**Amended Report**  
 Issued: 10/25/01 16:26

**Volatile Organic Compounds per EPA Method 8260B**  
**North Creek Analytical - Portland**

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
<b>01AMC407MI (P1G0858-02) Other wet</b>						Sampled: 07/21/01 Received: 07/26/01			
Acetone	ND	2500	ug/kg wet	1	EPA 8260B	08/04/01	08/04/01	1081012	
Benzene	ND	100	"	"	"	"	"	"	
Bromobenzene	ND	100	"	"	"	"	"	"	
Bromochloromethane	ND	100	"	"	"	"	"	"	
Bromodichloromethane	ND	100	"	"	"	"	"	"	
Bromoform	ND	100	"	"	"	"	"	"	
Bromomethane	ND	500	"	"	"	"	"	"	
2-Butanone	ND	1000	"	"	"	"	"	"	
n-Butylbenzene	ND	500	"	"	"	"	"	"	
sec-Butylbenzene	ND	100	"	"	"	"	"	"	
tert-Butylbenzene	ND	100	"	"	"	"	"	"	
Carbon disulfide	ND	1000	"	"	"	"	"	"	
Carbon tetrachloride	ND	100	"	"	"	"	"	"	
Chlorobenzene	ND	100	"	"	"	"	"	"	
Chloroethane	ND	100	"	"	"	"	"	"	
Chloroform	ND	100	"	"	"	"	"	"	
Chloromethane	ND	500	"	"	"	"	"	"	
2-Chlorotoluene	ND	100	"	"	"	"	"	"	
4-Chlorotoluene	ND	100	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	500	"	"	"	"	"	"	
Dibromochloromethane	ND	100	"	"	"	"	"	"	
1,2-Dibromoethane	ND	100	"	"	"	"	"	"	
Dibromomethane	ND	100	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	100	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	100	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	100	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	500	"	"	"	"	"	"	
1,1-Dichloroethane	ND	100	"	"	"	"	"	"	
1,2-Dichloroethane	ND	100	"	"	"	"	"	"	
1,1-Dichloroethene	ND	100	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	100	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	100	"	"	"	"	"	"	
1,2-Dichloropropane	ND	100	"	"	"	"	"	"	
1,3-Dichloropropane	ND	100	"	"	"	"	"	"	
2,2-Dichloropropane	ND	100	"	"	"	"	"	"	
1,1-Dichloropropene	ND	100	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	100	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	100	"	"	"	"	"	"	
Ethylbenzene	ND	100	"	"	"	"	"	"	

North Creek Analytical - Portland

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 Jerry Orlando, Project Manager/QA

**North Creek Analytical, Inc.**  
**Environmental Laboratory Network**

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Bristol Environmental & Engineering  
2000 W. International Airport Rd. #C-1  
Anchorage, AK 99502-1116

Project: Amchitka  
Project Number: 21090, PO# 21090  
Project Manager: Anne Krarawetter

**Amended Report**  
Issued: 10/25/01 16:26

## Volatile Organic Compounds per EPA Method 8260B

### North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
<b>01AMC407MI (PIG0858-02) Other wet</b>						Sampled: 07/21/01 Received: 07/26/01			
Hexachlorobutadiene	ND	200	ug/kg wet	1	EPA 8260B	08/04/01	08/04/01	1081012	
2-Hexanone	ND	1000	"	"	"	"	"	"	
Isopropylbenzene	ND	200	"	"	"	"	"	"	
p-Isopropyltoluene	ND	200	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND	500	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	100	"	"	"	"	"	"	
<b>Methylene chloride</b>	<b>683</b>	500	"	"	"	"	"	"	
Naphthalene	ND	200	"	"	"	"	"	"	
n-Propylbenzene	ND	100	"	"	"	"	"	"	
Styrene	ND	100	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	100	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	100	"	"	"	"	"	"	
Tetrachloroethene	ND	100	"	"	"	"	"	"	
Toluene	ND	100	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	100	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	100	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	100	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	100	"	"	"	"	"	"	
Trichloroethene	ND	100	"	"	"	"	"	"	
Trichlorofluoromethane	ND	100	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	100	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	100	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	100	"	"	"	"	"	"	
Vinyl chloride	ND	100	"	"	"	"	"	"	
o-Xylene	ND	100	"	"	"	"	"	"	
m,p-Xylene	ND	200	"	"	"	"	"	"	
Surr: 4-BFB	112 %	70-130							A-01
Surr: 1,2-DCA-d4	96.5 %	70-130							
Surr: Dibromofluoromethane	93.5 %	70-130							
Surr: Toluene-d8	96.0 %	70-130							

North Creek Analytical - Portland

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Jerry Orlando, Project Manager/QA

North Creek Analytical, Inc.  
Environmental Laboratory Network

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Bristol Environmental & Engineering  
2000 W. International Airport Rd. #C-1  
Anchorage, AK 99502-1116

Project: Amchitka  
Project Number: 21090, PO# 21090  
Project Manager: Anne Krarawetter

**Amended Report**  
Issued: 10/25/01 16:26

**Polynuclear Aromatic Compounds per EPA 8270M-SIM**  
**North Creek Analytical - Portland**

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
<b>01AMC406MI (P1G0858-01) Soil</b>						Sampled: 07/21/01 Received: 07/26/01			<b>R-05</b>
Acenaphthene	ND	335	ug/kg dry	25	EPA 8270m	07/31/01	08/02/01	1071915	
Acenaphthylene	ND	335	"	"	"	"	"	"	
Anthracene	ND	335	"	"	"	"	"	"	
Benzo (a) anthracene	ND	335	"	"	"	"	"	"	
<b>Benzo (a) pyrene</b>	<b>381</b>	335	"	"	"	"	"	"	
<b>Benzo (b) fluoranthene</b>	<b>1110</b>	335	"	"	"	"	"	"	
<b>Benzo (ghi) perylene</b>	<b>481</b>	335	"	"	"	"	"	"	R-08
Benzo (k) fluoranthene	ND	335	"	"	"	"	"	"	
<b>Chrysene</b>	<b>790</b>	335	"	"	"	"	"	"	R-08
Dibenzo (a,h) anthracene	ND	335	"	"	"	"	"	"	
<b>Fluoranthene</b>	<b>571</b>	335	"	"	"	"	"	"	
Fluorene	ND	335	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	335	"	"	"	"	"	"	
Naphthalene	ND	335	"	"	"	"	"	"	
<b>Phenanthrene</b>	<b>388</b>	335	"	"	"	"	"	"	
<b>Pyrene</b>	<b>720</b>	335	"	"	"	"	"	"	
Surr: Fluorene-d10	87.6 %	40-150							J
Surr: Pyrene-d10	79.8 %	40-150							J
Surr: Benzo (a) pyrene-d12	126 %	40-150							

North Creek Analytical - Portland

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*RO*

Jerry Orlando, Project Manager/QA

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**Environmental Laboratory Network**

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Anchorage, AK 99502-1116

Project: Amchitka  
Project Number: 21090, PO# 21090  
Project Manager: Anne Krarawetter


**Amended Report**  
Issued: 10/25/01 16:26

**Percent Dry Weight (Solids) per Standard Methods**  
**North Creek Analytical - Portland**

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
01AMC406MI (P1G0858-01) Soil						Sampled: 07/21/01 Received: 07/26/01			
% Solids	64.8		1.00 % by Weight	1	NCA SOP	07/27/01	07/30/01	1071779	

North Creek Analytical - Portland

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Project: Amchitka  
 Project Number: 21090, PO# 21090  
 Project Manager: Anne Krarawetter

**Amended Report**  
 Issued: 10/25/01 16:26

### Total Metals per EPA 6000/7000 Series Methods - Quality Control

#### North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch 1071826 - EPA 3050

##### Blank (1071826-BLK1)

Prepared: 07/28/01 Analyzed: 08/01/01

Arsenic	ND	0.500	mg/kg							
Barium	ND	1.00	"							
Cadmium	ND	0.500	"							
Chromium	ND	0.500	"							
Lead	ND	0.500	"							
Selenium	ND	0.500	"							
Silver	ND	0.500	"							

##### LCS (1071826-BS1)

Prepared: 07/28/01 Analyzed: 08/01/01

Arsenic	10.2	0.500	mg/kg	10.0	102	80-120				
Barium	11.4	1.00	"	10.0	114	80-120				
Cadmium	11.2	0.500	"	10.0	112	80-120				
Chromium	11.4	0.500	"	10.0	114	80-120				
Lead	10.9	0.500	"	10.0	109	80-120				
Selenium	11.1	0.500	"	10.0	111	80-120				
Silver	5.40	0.500	"	5.00	108	80-120				

##### Duplicate (1071826-DUP1)

Source: P1G0869-01

Prepared: 07/28/01 Analyzed: 08/01/01

Arsenic	5.07	0.500	mg/kg dry	4.60			9.72	40		
Barium	232	1.00	"	211			9.48	40		
Cadmium	ND	0.500	"	ND					40	
Chromium	30.4	0.500	"	27.1			11.5	40		
Lead	18.2	0.500	"	16.3			11.0	40		
Selenium	ND	0.500	"	ND					40	
Silver	ND	0.500	"	ND			21.4	40		

##### Matrix Spike (1071826-MS1)

Source: P1G0869-01

Prepared: 07/28/01 Analyzed: 08/01/01

Arsenic	18.3	0.500	mg/kg dry	12.9	4.60	106	75-125			
Barium	242	1.00	"	12.9	211	NR	75-125			Q-02
Cadmium	15.2	0.500	"	12.9	ND	118	75-125			
Chromium	49.7	0.500	"	12.9	27.1	175	75-125			Q-02
Lead	34.3	0.500	"	12.9	16.3	140	75-125			Q-02
Selenium	14.1	0.500	"	12.9	ND	109	75-125			
Silver	7.86	0.500	"	6.44	ND	121	75-125			

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Bristol Environmental & Engineering  
 2000 W. International Airport Rd. #C-1  
 Anchorage, AK 99502-1116

Project: Amchitka  
 Project Number: 21090, PO# 21090  
 Project Manager: Anne Krarawetter

**Amended Report**  
 Issued: 10/25/01 16:26

### Total Metals per EPA 6000/7000 Series Methods - Quality Control

#### North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch 1080927 - EPA 7471

##### Blank (1080927-BLK1)

Mercury ND 0.100 mg/kg Prepared & Analyzed: 08/02/01

##### LCS (1080927-BS1)

Mercury 1.05 0.100 mg/kg 1.00 105 80-120 Prepared & Analyzed: 08/02/01

##### Duplicate (1080927-DUP1)


Mercury ND 0.100 mg/kg dry ND 40 Source: P1G1015-01 Prepared & Analyzed: 08/02/01

##### Matrix Spike (1080927-MS1)

Mercury 1.20 0.100 mg/kg dry 1.22 ND 98.4 75-125 Source: P1G1015-01 Prepared & Analyzed: 08/02/01

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Bristol Environmental & Engineering  
2000 W. International Airport Rd. #C-1  
Anchorage, AK 99502-1116

Project: Amchitka  
Project Number: 21090, PO# 21090  
Project Manager: Anne Krarawetter

**Amended Report**  
Issued: 10/25/01 16:26

**Volatile Organic Compounds per EPA Method 8260B - Quality Control**

**North Creek Analytical - Portland**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 1081012 - EPA 5035**


**Blank (1081012-BLK1)**

Prepared & Analyzed: 08/04/01

Acetone	ND	25.0	ug/kg
Benzene	ND	1.00	"
Bromobenzene	ND	1.00	"
Bromochloromethane	ND	1.00	"
Bromodichloromethane	ND	1.00	"
Bromoform	ND	1.00	"
Bromomethane	ND	5.00	"
2-Butanone	ND	10.0	"
n-Butylbenzene	ND	5.00	"
sec-Butylbenzene	ND	1.00	"
tert-Butylbenzene	ND	1.00	"
Carbon disulfide	ND	10.0	"
Carbon tetrachloride	ND	1.00	"
Chlorobenzene	ND	1.00	"
Chloroethane	ND	1.00	"
Chloroform	ND	1.00	"
Chloromethane	ND	5.00	"
2-Chlorotoluene	ND	1.00	"
4-Chlorotoluene	ND	1.00	"
1,2-Dibromo-3-chloropropane	ND	5.00	"
Dibromochloromethane	ND	1.00	"
1,2-Dibromoethane	ND	1.00	"
Dibromomethane	ND	1.00	"
1,2-Dichlorobenzene	ND	1.00	"
1,3-Dichlorobenzene	ND	1.00	"
1,4-Dichlorobenzene	ND	1.00	"
Dichlorodifluoromethane	ND	5.00	"
1,1-Dichloroethane	ND	1.00	"
1,2-Dichloroethane	ND	1.00	"
1,1-Dichloroethene	ND	1.00	"
cis-1,2-Dichloroethene	ND	1.00	"
trans-1,2-Dichloroethene	ND	1.00	"
1,2-Dichloropropane	ND	1.00	"
1,3-Dichloropropane	ND	1.00	"
2,2-Dichloropropane	ND	1.00	"
1,1-Dichloropropene	ND	1.00	"

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Bristol Environmental & Engineering  
 2000 W. International Airport Rd. #C-1  
 Anchorage, AK 99502-1116

Project: Amchitka  
 Project Number: 21090, PO# 21090  
 Project Manager: Anne Krarawetter

**Amended Report**  
 Issued: 10/25/01 16:26

### Volatile Organic Compounds per EPA Method 8260B - Quality Control

#### North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch 1081012 - EPA 5035

##### Blank (1081012-BLK1)

Prepared & Analyzed: 08/04/01

cis-1,3-Dichloropropene	ND	1.00	ug/kg							
trans-1,3-Dichloropropene	ND	1.00	"							
Ethylbenzene	ND	1.00	"							
Hexachlorobutadiene	ND	2.00	"							
2-Hexanone	ND	10.0	"							
Isopropylbenzene	ND	2.00	"							
p-Isopropyltoluene	ND	2.00	"							
4-Methyl-2-pentanone	ND	5.00	"							
Methyl tert-butyl ether	ND	1.00	"							
Methylene chloride	ND	5.00	"							
Naphthalene	ND	2.00	"							
n-Propylbenzene	ND	1.00	"							
Styrene	ND	1.00	"							
1,1,1,2-Tetrachloroethane	ND	1.00	"							
1,1,2,2-Tetrachloroethane	ND	1.00	"							
Tetrachloroethene	ND	1.00	"							
Toluene	ND	1.00	"							
1,2,3-Trichlorobenzene	ND	1.00	"							
1,2,4-Trichlorobenzene	ND	1.00	"							
1,1,1-Trichloroethane	ND	1.00	"							
1,1,2-Trichloroethane	ND	1.00	"							
Trichloroethene	ND	1.00	"							
Trichlorofluoromethane	ND	1.00	"							
1,2,3-Trichloropropane	ND	1.00	"							
1,2,4-Trimethylbenzene	ND	1.00	"							
1,3,5-Trimethylbenzene	ND	1.00	"							
Vinyl chloride	ND	1.00	"							
o-Xylene	ND	1.00	"							
m,p-Xylene	ND	2.00	"							
Surr: 4-BFB	21.6		"	20.0		108	70-130			
Surr: 1,2-DCA-d4	19.5		"	20.0		97.5	70-130			
Surr: Dibromofluoromethane	19.2		"	20.0		96.0	70-130			
Surr: Toluene-d8	19.1		"	20.0		95.5	70-130			

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Bristol Environmental & Engineering  
2000 W. International Airport Rd. #C-1  
Anchorage, AK 99502-1116

Project: Amchitka  
Project Number: 21090, PO# 21090  
Project Manager: Anne Krarawetter

**Amended Report**  
Issued: 10/25/01 16:26

**Volatile Organic Compounds per EPA Method 8260B - Quality Control**

**North Creek Analytical - Portland**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 1081012 - EPA 5035**

**LCS (1081012-BS1)**

Prepared & Analyzed: 08/04/01

Benzene	20.5	1.00	ug/kg	20.0		102	80-135			
Chlorobenzene	20.6	1.00	"	20.0		103	80-135			
1,1-Dichloroethene	19.3	1.00	"	20.0		96.5	60-150			
Toluene	20.9	1.00	"	20.0		104	80-130			
Trichloroethene	20.3	1.00	"	20.0		102	70-135			
Surr: 4-BFB	21.2		"	20.0		106	70-130			
Surr: 1,2-DCA-d4	19.6		"	20.0		98.0	70-130			
Surr: Dibromofluoromethane	19.8		"	20.0		99.0	70-130			
Surr: Toluene-d8	19.7		"	20.0		98.5	70-130			

**Matrix Spike (1081012-MS1)**

Source: P1G0858-01

Prepared & Analyzed: 08/04/01

Benzene	4500	144	ug/kg dry	4440	ND	100	60-135			
Chlorobenzene	4640	144	"	4440	ND	105	65-125			
1,1-Dichloroethene	4380	144	"	4440	ND	98.6	60-135			
Toluene	4720	144	"	4440	255	101	60-125			
Trichloroethene	4820	144	"	4440	ND	109	60-125			
Surr: 4-BFB	32.0		"	44.4		72.1	70-130			A-01
Surr: 1,2-DCA-d4	44.3		"	44.4		99.8	70-130			
Surr: Dibromofluoromethane	44.1		"	44.4		99.3	70-130			
Surr: Toluene-d8	43.3		"	44.4		97.5	70-130			

**Matrix Spike Dup (1081012-MSD1)**


Source: P1G0858-01

Prepared & Analyzed: 08/04/01

Benzene	4420	144	ug/kg dry	4440	ND	98.6	60-135	1.79	25	
Chlorobenzene	4530	144	"	4440	ND	102	65-125	2.40	25	
1,1-Dichloroethene	4360	144	"	4440	ND	98.2	60-135	0.458	25	
Toluene	4730	144	"	4440	255	101	60-125	0.212	25	
Trichloroethene	4830	144	"	4440	ND	109	60-125	0.207	25	
Surr: 4-BFB	31.4		"	44.4		70.7	70-130			A-01
Surr: 1,2-DCA-d4	42.8		"	44.4		96.4	70-130			
Surr: Dibromofluoromethane	43.0		"	44.4		96.8	70-130			
Surr: Toluene-d8	43.3		"	44.4		97.5	70-130			

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Bristol Environmental & Engineering  
 2000 W. International Airport Rd. #C-1  
 Anchorage, AK 99502-1116

Project: Amchitka  
 Project Number: 21090, PO# 21090  
 Project Manager: Anne Krarawetter

**Amended Report**  
 Issued: 10/25/01 16:26

### Polynuclear Aromatic Compounds per EPA 8270M-SIM - Quality Control

#### North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch 1071915 - EPA 3550

##### Blank (1071915-BLK1)

Prepared: 07/31/01 Analyzed: 08/02/01

Acenaphthene	ND	13.4	ug/kg							
Acenaphthylene	ND	13.4	"							
Anthracene	ND	13.4	"							
Benzo (a) anthracene	ND	13.4	"							
Benzo (a) pyrene	ND	13.4	"							
Benzo (b) fluoranthene	ND	13.4	"							
Benzo (ghi) perylene	ND	13.4	"							
Benzo (k) fluoranthene	ND	13.4	"							
Chrysene	ND	13.4	"							
Dibenzo (a,h) anthracene	ND	13.4	"							
Fluoranthene	ND	13.4	"							
Fluorene	ND	13.4	"							
Indeno (1,2,3-cd) pyrene	ND	13.4	"							
Naphthalene	ND	13.4	"							
Phenanthrene	ND	13.4	"							
Pyrene	ND	13.4	"							
Surr: Fluorene-d10	47.3		"	83.3		56.8	40-150			
Surr: Pyrene-d10	72.9		"	83.3		87.5	40-150			
Surr: Benzo (a) pyrene-d12	69.8		"	83.3		83.8	40-150			

##### LCS (1071915-BS1)

Prepared: 07/31/01 Analyzed: 08/02/01

Acenaphthene	131	13.4	ug/kg	167		78.4	33-139			
Benzo (a) pyrene	150	13.4	"	167		89.8	45-149			
Pyrene	121	13.4	"	167		72.5	39-138			
Surr: Fluorene-d10	53.4		"	83.3		64.1	40-150			
Surr: Pyrene-d10	72.3		"	83.3		86.8	40-150			
Surr: Benzo (a) pyrene-d12	71.3		"	83.3		85.6	40-150			

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Bristol Environmental & Engineering  
 2000 W. International Airport Rd. #C-1  
 Anchorage, AK 99502-1116

Project: Amchitka  
 Project Number: 21090, PO# 21090  
 Project Manager: Anne Krarawetter

**Amended Report**  
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**Polynuclear Aromatic Compounds per EPA 8270M-SIM - Quality Control**

**North Creek Analytical - Portland**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 1071915 - EPA 3550</b>									
<b>Matrix Spike (1071915-MS1)</b>		<b>Source: P1G0783-06</b>		<b>Prepared: 07/31/01</b>		<b>Analyzed: 08/02/01</b>			
Acenaphthene	146	13.4	ug/kg dry	182	ND	80.2	33-139		
Benzo (a) pyrene	168	13.4	"	182	ND	92.3	45-149		
Pyrene	137	13.4	"	182	ND	75.3	39-138		
Surr: Fluorene-d10	57.4		"	91.2		62.9	40-150		
Surr: Pyrene-d10	81.7		"	91.2		89.6	40-150		
Surr: Benzo (a) pyrene-d12	78.5		"	91.2		86.1	40-150		
<b>Matrix Spike Dup (1071915-MSD1)</b>		<b>Source: P1G0783-06</b>		<b>Prepared: 07/31/01</b>		<b>Analyzed: 08/02/01</b>			
Acenaphthene	149	13.4	ug/kg dry	182	ND	81.9	33-139	2.03	60
Benzo (a) pyrene	169	13.4	"	182	ND	92.9	45-149	0.593	60
Pyrene	135	13.4	"	182	ND	74.2	39-138	1.47	60
Surr: Fluorene-d10	57.5		"	91.2		63.0	40-150		
Surr: Pyrene-d10	79.2		"	91.2		86.8	40-150		
Surr: Benzo (a) pyrene-d12	78.4		"	91.2		86.0	40-150		

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Bristol Environmental & Engineering  
2000 W. International Airport Rd. #C-1  
Anchorage, AK 99502-1116

Project: Amchitka  
Project Number: 21090, PO# 21090  
Project Manager: Anne Krarawetter

**Amended Report**  
Issued: 10/25/01 16:26

**Percent Dry Weight (Solids) per Standard Methods - Quality Control**

**North Creek Analytical - Portland**


Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 1071779 - Dry Weight**

<b>Duplicate (1071779-DUP1)</b>		<b>Source: P1G0644-01</b>		Prepared: 07/27/01 Analyzed: 07/30/01						
% Solids	90.3	1.00 % by Weight		90.1				0.222	20	
<b>Duplicate (1071779-DUP2)</b>		<b>Source: P1G0893-01</b>		Prepared: 07/27/01 Analyzed: 07/30/01						
% Solids	79.7	1.00 % by Weight		79.1				0.756	20	
<b>Duplicate (1071779-DUP3)</b>		<b>Source: P1G0916-11</b>		Prepared: 07/27/01 Analyzed: 07/30/01						
% Solids	89.1	1.00 % by Weight		88.7				0.450	20	

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Bristol Environmental & Engineering  
2000 W. International Airport Rd. #C-1  
Anchorage, AK 99502-1116

Project: Amchitka  
Project Number: 21090, PO# 21090  
Project Manager: Anne Krarawetter

**Amended Report**  
Issued: 10/25/01 16:26

### Notes and Definitions

- A-01 The dilution field was adjusted to compensate for surrogate (4-BFB) added in the field.
- J Estimated value.
- Q-02 The spike recovery for this QC sample is outside of established control limits due to sample matrix interference.
- R-05 Reporting limits raised due to dilution necessary for analysis. Sample contains high levels of reported analyte, non-target analyte, and/or matrix interference.
- R-08 Due to matrix unable to resolve Benzofluoranthene isomers. Value reported only in Benzo(b) category represents Total Benzo(b+k)fluoranthene.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis. MRLs are adjusted if %Solids are less than 50%.
- wet Sample results reported on a wet weight basis (as received)
- RPD Relative Percent Difference

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